

### REMARKS

The Examiner rejected claims 13-15 under 35 U.S.C. § 112, second paragraph; rejected claims 2-16 under 35 U.S.C. § 101; rejected claim 9 under 35 U.S.C. § 102(e). Applicant amends claims 2, 5-7, 9, 13, and 16; cancels claim 15. Claims 2-14 and 16 remain in the case.

#### Amendment to Claim 6

Applicant amends claim 6 in order to correct an obvious typographical error. That is, the preamble of claim 6 is amended to properly indicate that claim 6 depends from claim 5 rather than claim 2. The error is apparent by noting that claim 6 follows independent claim 5 in the original application as filed, and thus proper form indicates that dependency from claim 5 was clearly intended. No new matter has been added through this amendment.

#### Rejection of Claims 13-15 under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 13-15 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner states that in claim 13, line 5, it is not clear what it meant by “describing a subclass each of said training set.”

With regard to claim 13, Applicant amends claim 13 in order to correct an obvious typographical error. That is, claim 13 claims the following subject matter found in the specification at page 14, lines 7-11:

“This means that plural subclasses of the training set may be constructed by organizing the logic conditions in a disjunction of clauses, wherein one clause constitutes a conjunction of one or plural logic condition(s) and *describes* a subclass each of the training set.” (emphasis added)

The above text “one clause ... *describes* a subclass each of the training set” makes it evident that the claim language “describing a subclass each of said training set” should properly be appended to the end of the “constructing” step, not listed as a separate step. Claim 13 has been amended to correct this error. No new matter has been added through this amendment.

In light of the above amendment, Applicant submits that claim 13 as amended does particularly point out and distinctly claim the subject matter which Applicant regards as the

invention, and thus the grounds for rejection have been overcome. Applicant therefore requests that the rejection of claim 13, and claim 14 which depends from claim 13, under 35 U.S.C. § 112, second paragraph be withdrawn.

Claim 15 has been cancelled for reasons discussed below regarding the rejection of claim 9 under 35 U.S.C. § 102(e), thus rendering its rejection under 35 U.S.C. § 112, second paragraph moot.

#### Rejection of Claims 2-16 under 35 U.S.C. § 101

The Examiner rejected claims 2-16 under 35 U.S.C. § 101 on the grounds that the claimed invention lacks patentable utility. In particular, the Examiner states that the present invention is directed to data manipulation for the purpose of protocol analysis; that claim 2 is an abstract idea which lacks a practical application; that claim 2 is merely data manipulation and therefore lacks physical application that produces a “useful, concrete, and tangible” result. Applicant respectfully traverses.

First, Applicant amends claims 2, 5, 7, 9, and 16 in order to more clearly identify the subject matter. That is, claims 2, 5, 7, 9, and 16 are amended to indicate that the result of each claim is “[knowledge of] a finite automaton of a protocol implementation of a communication system.” No new matter has been added through these amendments because this subject matter is disclosed throughout the specification at numerous locations, e.g. “finite automaton of a protocol implementation” is described at page 4, lines 14-15, etc.; “communication system” is described at page 2 generally, page 4, line 5, etc.

Applicant asserts that claims 2, 5, 7, 9, and 16 as so amended produce a “useful, concrete, and tangible result” for the following reasons:

The result of claims 2, 5, 7, 9, and 16 as so amended, i.e., knowledge of the finite automaton of a protocol implementation of a communication system, is “useful” because it facilitates the validation and “smooth functioning” of communication systems. See page 2 of the specification for a thorough discussion of “typical error sources” of communication systems, the resulting need for troubleshooting and validation aids, and how such knowledge facilitates troubleshooting and validation. Facilitating the “smooth functioning” of communication systems is “specific, substantial, and credible” utility. (MPEP § 2107)

The result of claims 2, 5, 7, 9, and 16 as so amended, i.e., knowledge of the finite automaton of a protocol implementation of a communication system, is “concrete” because it is “reproducible” and “predictable.” (“Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility”, Official Gazette Notices, Nov. 22, 2005, <http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>, hereinafter “Interim Guidelines”) That is, one of ordinary skill in the art of protocol analysis recognizes that the steps of “grouping...”, “using...”, “calculating...”, and “forming...” are “reproducible” and “predictable.”

The result of claims 2, 5, 7, 9, and 16 as so amended, i.e., knowledge of a finite automaton of a protocol implementation of a communication system, is “tangible” because it “corresponds to” a useful, concrete or tangible thing: a protocol implementation of a communication system. (See *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053, 22 USPQ2d 1033 (Fed.Cir. 1992), holding that the mathematical transformation of electrocardiograph signals from a patient’s heartbeat constituted a *practical application* of an abstract idea ... because it *corresponded to* a useful, concrete or tangible thing: the condition of the patient’s heart.) That is, knowledge of a finite automaton of a protocol implementation of a communication system is certainly a “real-world result” (Interim Guidelines), not a mere “abstract idea.” *In re Alappat*, 33 F.3d 1526, 1543, 31 U.S.P.Q.2d 1545 (Fed.Cir. 1994).

For the abovementioned reasons, claims 2, 5, 7, 9, and 16 produce a “useful, concrete, and tangible result.” Applicant therefore requests that the rejection of claims 2, 5, 7, 9, and 16 under 35 U.S.C. § 101 be withdrawn.

Claims 3-4, 6, 8, and 10-14 are patentable because they depend from claims 2, 5, 7, 9, and 16, which are patentable. Accordingly, Applicant requests that the rejection of claims 3-4, 6, 8, and 10-14 under 35 U.S.C. § 101 be withdrawn.

Claim 15 has been cancelled for reasons discussed below regarding the rejection of claim 9 under 35 U.S.C. § 102(e), thus rendering its rejection under 35 U.S.C. § 101 moot.

#### Rejection of Claim 9 under 35 U.S.C. § 102(e)

The Examiner rejected claim 9 under 35 U.S.C. § 102(e) as being anticipated by Han (U.S. Patent No. 6,104,835). Applicant respectfully traverses on the ground that Han does not teach or suggest every element required by claim 9.

First, Applicant amends claim 9 in order to more clearly define the scope of the claimed subject matter. That is, Applicant adds the elements from claim 15 that “the training set be[] an example communication composed of Protocol Data Units (PDUs) of a protocol machine and the logic conditions be[] the rules for the numerical PDU field contents of a sequence of PDUs” and cancels claim 15. No new matter has been added through this amendment.

Han does not teach “the training set being an example communication composed of Protocol Data Units (PDUs) of a protocol machine and the logic conditions being the rules for the numerical PDU field contents of a sequence of PDUs” as required by claim 9 as so amended. Thus, Han does not teach or suggest Applicant’s invention as described in claim 9 as amended, and therefore claim 9 is not anticipated by Han. Accordingly, Applicant requests that the rejection of claim 9 under 35 U.S.C. § 102(c) be withdrawn.

#### Conclusion

In view of the foregoing remarks, allowance of claims 2-14 and 16 is urged, and such action and the issuance of this case are requested.

Respectfully submitted,

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